REMARKS

Upon entry of this amendment, claims 4, 5, 6, 13 and 15 will be canceled without prejudice or disclaimer of the subject matter recited therein, claims 3, 7, 9, 10, 17 and 18 will be amended, and claims 19-44 will be added, whereby claims 1-3, 7-12, 14 and 16-44 will be pending. Claims 1, 2, 3, 8, 9 and 10 are independent claims.

The amendment to the claims is in conformance with the disclosure in the originally filed application, such as the disclosure at page 5, lines 6-15, and page 5, line 23 to the Examples beginning at page 9, and does not include new matter. Thus, for example, attention is directed to page 5, lines 11-15 with respect to newly-added claim 19, page 5, lines 11-15, page 6, lines 17-22 and page 7, lines 27-31 with respect to newly-added claim 20. Moreover, the top of page 7 of the application discloses a purity of the Y_2O_3 having a purity of not less than 95% or 98%, and page 5, lines 6-15, discloses the sprayed coating consisting of only Y_2O_3.

Moreover, amendments have been made to the claims to clarify their language.

Still further, the specification has been amended to explicitly include therein the claimed subject matter.

Reconsideration and allowance of the application are respectfully requested.

Response to Formal Matters

Applicants express appreciation for the return of the Form PTO-1449 with the Office Action confirming the Examiner's consideration of the Information Disclosure Statement filed November 5, 2001.

Moreover, Applicants submitted a Supplemental Information Disclosure Statement on December 9, 2002. The Examiner is respectfully requested to consider the information cited in the Supplemental Information Disclosure Statement and to confirm such consideration by forwarding an initialed copy of the Form PTO-1449 submitted therewith with the next communication from the Patent and Trademark Office.

Applicants express appreciation for the acknowledgment in the Office Action of the claim of priority under 35 U.S.C. 119, as well as receipt of the certified copy of the priority application.

Response To Indication Of Allowable Subject Matter

Applicants express appreciation for the indication that claims 2, 3, 9-12, 14 and 16-18 are allowed, and that claims 4-6, 13 and 15 contain allowable subject matter but are currently rejected under 35 U.S.C. 112.

By the amendment herein, claims 24-31 and 35-42 have been added which depend upon allowed claims 2, 3, 9 and 10, whereby these newly-added claims should also be in condition for allowance.

Applicants note that claims 4-6, 13 and 15 have been deleted as amendment of these claims may involve redundancy with respect to pending claims.

Accordingly, allowance of claims 2, 3, 9-12, 14, 16-18, 24-31 and 35-42 as well as the remaining claims of record, i.e., claims 1, 7, 8, 19-23 and 32-34, is respectfully requested with the early mailing of the Notices of Allowance and Allowability.

Response To Rejection Under 35 U.S.C. 112, Second Paragraph

Claims 4, 5 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

In response, Applicants respectfully submit that this ground of rejection is rendered moot by the cancellation of claims 4, 5 and 13. Accordingly, this ground of rejection is no longer applicable, and should be withdrawn.

Response To Prior Art Rejections

The following rejections are set forth in the Official Action:

Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-045,467 (hereinafter "JP '467).

Claims 1 and 8 [apparently claims 1, 7 and 8] are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al. (hereinafter "Nakahara"), U.S. Patent No. 6,383,964.

In these grounds of rejection, the Examiner asserts that the documents are silent to the method used to form the ceramic coating layer, but indicates that claim 1 is drawn to the article, not the method of making. Regarding claim 8, the Examiner asserts that any known method for forming a multiple oxide containing coating can be used.

In response, Applicants respectfully submit that independent claim 1 is directed to an internal member for a plasma treating vessel comprising a substrate and a Y_20_3 sprayed coating covered on a surface thereof. Moreover, independent claim 8 is directed to a method of producing an internal

member for a plasma treating vessel, which comprises covering Y_20_3 on a surface of a substrate through a spraying process to form a Y_20_3 sprayed coating.

In contrast, to the invention disclosed and claimed by Applicants, JP '467 and Nakahara do not teach or suggest such an internal member or its manner of production.

Initially, Applicants respectfully submit that the rejections are without appropriate basis, because the rejections are under 35 U.S.C. 103 which requires that an indication be made as to the deficiency of the utilized document, how the document is being modified to overcome this deficiency, and where there is motivation in the prior art for making the modification. However, the present rejections are silent as to any modification that is being made to either of JP '467 or Nakahara with respect to arriving at Applicants' invention as recited in claim 1. Accordingly, at least for this reason, the rejection of independent claim 1, and the claims dependent therefrom, is without appropriate basis and should be withdrawn.

Still further, with respect to the obviousness rejection based upon JP '467, Applicants note that JP '467 is directed to a corrosion-resistant member composed of a composite oxide comprising a metal of Group IIIa in the Periodic Table, such as Y or the like, and Al and/or Si. As an example of the composite oxide, JP '467 discloses at paragraph [0016] that the composite oxide is desirable to be mainly crystalline, and particularly it is desirable to be mainly composed of a garnet type crystal such as YAG ($3Y_2O_3 \cdot 5Al_2O_3$) or the like, a monoclinic type crystal such as YAM ($2Y_2O_3 \cdot Al_2O_3$) or the like, a perovskite type crystal such as YAP ($Y_2O_3 \cdot Al_2O_3$) or the like, or a silicate compound such as monosilicate ($Y_2P_3 \cdot SiO_2$), disilicate ($Y_2O_3 \cdot 2SiO_2$) or the like in view of an

excellent corrosion resistance. Among them, the garnet type crystal and the disilicate type crystal are most desirable in view of the sintering property and inexpensive production cost.

JP '467 does not teach or suggest, amongst other features of Applicants' invention, an internal member for a plasma treating vessel comprising a substrate and a Y_20_3 sprayed coating covered on a surface thereof or its method of production, as recited in Applicants' claims 1 and 8; the Y_20_3 having a purity of not less than 95%, as recited in Applicants' claims 21 and 33; the Y_20_3 having a purity of not less than 98%, as recited in Applicants' claims 22 and 34; the Y_2O_3 sprayed coating consisting essentially of Y_2O_3, as recited in Applicants' claims 23 and 35; and the Y_2O_3 sprayed coating consisting solely of Y_2O_3, as recited in Applicants' claims 24 and 36.

Still further, with respect to the obviousness rejection based upon Nakahara, Applicants note that Nakahara is directed to a ceramic sintered body consisting of a compound of yttrium-aluminum-garnet (YAG) and an oxide selected from aluminum oxide, yttrium oxide, and aluminum nitride as a material used under environment exposed to a halogenous gas and its plasma gas. Nakahara does not teach or suggest, amongst other features of Applicants' invention, an internal member for a plasma treating vessel comprising a substrate and a Y_20_3 sprayed coating covered on a surface thereof or its method of production, as recited in Applicants' claims 1 and 8; the Y_20_3 having a purity of not less than 95%, as recited in Applicants' claims 21 and 33; the Y_20_3 having a purity of not less than 98%, as recited in Applicants' claims 22 and 34; the Y_2O_3 sprayed coating consisting essentially of Y_2O_3, as recited in Applicants' claims 23 and 35; and the Y_2O_3 sprayed coating consisting solely of Y_2O_3, as recited in Applicants' claims 24 and 36.

Expanding upon the above, Applicants note that Nakahara discloses at column 5, lines 9-11, that the preferable ceramic sintered body has a composition of 35-80% of Y_2O_3 and 20-65% of Al_2O_3. Moreover, in Example 1 and depicted in Table 1 on column 6, Nakahara discloses that sintered bodies Nos. 2-6 had excellent corrosion resistance to any corrosive gases such as Cl_2 gas and SF_6 gas as compared to conventional corrosion members. It is disclosed that as the content of yttria in Nakahara becomes higher than 35 mole %, the resulting member tends to exhibit better corrosion resistance, but that the etching rate begins to decrease until the content reaches 80 mole % as the upper limit.

Still further, Nakahara discloses at column 13, Table 7 that the etching rate of the sintered body in Y_2O_3 containing a small amount of ZrO_3 (5000 ppm) and a slight amount of CeO_2 (50 ppm) with Cl_2, SF_6 is larger than that of the sintered body consisting of 20-65% of Al_2O_3 and 80-35% of Y_2O_3 and is unsuitable. Nakahara is therefore showing that not only Y_2O_3 having a higher purity, but also Y_2O_3 containing impurities are subject to damages through the halogenous gas.

Moreover, the present invention is characterized by coating the outermost layer surface of the substrate with the Y_2O_3 spray-coated film. In contrast, Nakahara discloses a sintered body, and not a layer.

Thus, Applicants respectfully submit that the only teaching or suggestion that would lead one having ordinary skill in the art to arrive at Applicants' invention is within Applicants' disclosure, and the use of such disclosure by the Examiner is improper. In order to support the conclusion that the claimed invention is either anticipated or rendered obvious over the prior art, the prior art must either expressly or inherently teach the claimed invention or the Examiner must present a convincing line

of reasoning why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. Ex parte Clapp, 227 U.S.P.Q. 972 (B.O.A. 1985).

Additionally, each of the dependent claims is patentable over the prior art of record in view of the fact that each of these dependent claims includes the limitations of the independent claim. Moreover, each of the dependent claims is patentable over the prior art of record because it would not have been obvious to one having ordinary skill in the art to incorporate such dependent claim features into the invention as more broadly recited in the independent claim.

Accordingly, the rejections of record should be withdrawn as improper, and all of the claims should be indicated as allowable over the prior art.

CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow each of the pending claims.

Applicants therefore respectfully request that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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APPENDIX
MARKED UP COPY OF AMENDED CLAIMS 3, 7, 9, 10, 17 and 18

3. (Amended) An internal member for a plasma treating vessel comprising a substrate, a metal [film] coating formed on a surface thereof as an undercoat, a middle layer formed on the undercoat and a Y_2O_3 sprayed coating formed on the middle layer as a top coat.

7. (Twice Amended) An internal member for a plasma treating vessel according to claim 1, wherein the Y_2O_3 sprayed coating is a coating having a porosity of [o]0.5-10% and a thickness of 50-2000 μm.

9. (Amended) A method of producing an internal member for a plasma treating vessel, which comprises applying at least one surface treating process selected from CVD process, PVD process and thermal spraying process to a surface of a substrate to form a composite layer [consisting] composed of a layer of a metal of Ni, W, Mo or Ti or an alloy thereof as an undercoat and Y_2O_3 as a top coat.

10. (Amended) A method of producing an internal member for a plasma treating vessel, which comprises applying at least one surface treating process selected from CVD process, PVD process and thermal spraying process to a surface of a substrate to form a composite layer [consisting] composed of a layer of a metal of Ni, W, Mo or Ti or an alloy thereof as an undercoat, Al_2O_3 or a mixture of Al_2O_3 and Y_2O_3 as a middle layer and Y_2O_3 as a top coat.

17. (Amended) An internal member for a plasma treating vessel according to claim 2, wherein the Y_2O_3 sprayed coating is a coating having a porosity of [o]0.5-10% and a thickness of 50-2000 μm.

18. (Amended) An internal member for a plasma treating vessel according to claim 3, wherein the Y_20_3 sprayed coating is a coating having a porosity of [o]0.5-10% and a thickness of 50-2000 μm.